

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 :

F04B 53/16 // 53/14, F16J 10/02, F16F 7/09

A1

(11) International Publication Number:

WO 00/70227

(43) International Publication Date: 23 November 2000 (23.11.00)

(21) International Application Number: PCT/DK00/00207

(22) International Filing Date: 25 April 2000 (25.04.00)

(30) Priority Data:

PCT/DK99/00227 22 April 1999 (22.04.99) DK

(71) Applicant (for all designated States except US): NVB INTERNATIONAL [DK/DK]; Gærdet 12, P.O. Box 69, DK-3460 Birkerød (DK).

(72) Inventor; and

(75) Inventor/Applicant (for US only): VAN DER BLOM, Nicolaas [NL/DK]; Gærdet 12, DK-3460 Birkerød (DK).

(81) Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

(54) Title: A COMBINATION OF A CHAMBER AND A PISTON, A PUMP, A MOTOR, A SHOCK ABSORBER AND A TRANSDUCER INCORPORATING THE COMBINATION

(57) Abstract

A combination of a piston and a chamber, wherein the chamber defines an elongate chamber having a longitudinal axis, the chamber having, at a first longitudinal position thereof, a first cross-sectional area thereof and, at a second longitudinal position thereof, a second cross-sectional area, the second cross-sectional area being 95% or less of the first cross-sectional area, the change in cross-section of the chamber being at least substantially continuous between the first and second longitudinal positions, the piston being adapted to adapt itself to the cross-section of the chamber when moving from the first to the second longitudinal position of the chamber. The piston may comprise an umbrella-like support structure or a fibre enforced deformable container comprising a foam or a fluid. The combination may be used in a pump, a linear actuator, a motor, or a shock absorber.

